



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

P.O. Box 3000, Harrisonburg, Virginia 22801

(540) 574-7800 Fax (540) 574-7878

located at 4411 Early Road, Harrisonburg, VA

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

March 28, 2016

Mr. Don Smiley
Massanutten Public Service Corporation
P.O. Box 51
Elkton, VA 22827

Re: Reissuance, VPDES Permit No. VA0024732, Massanutten Public Service Corporation STP

Dear Mr. Smiley:

The enclosed permit has been approved. This permit action involved reissuing an existing permit to discharge treated wastewater. The first Discharge Monitoring Report (DMR) for the month ending April 30, 2016 is due by May 10, 2016. Please continue to use the e-DMR program to submit the effluent data electronically.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

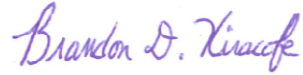
Alternatively, any owner under §§ 62.1 - 44.16, 62.1 - 44.17, and 62.1 - 44.19 of the State Water Control Law aggrieved by any action of the State Water Control Board taken without a formal hearing, or by inaction of the Board, may demand in writing a formal hearing of such owner's grievance, provided a petition requesting such hearing is filed with the Board. Said petition must meet the requirements set forth in §1.23(b) of the Board's Procedural Rule No. 1. In cases involving actions of the Board, such petition must be filed within thirty days after notice of such action is mailed to such owner by certified mail.

Please be aware that other regulatory requirements may also apply to this facility. For example, further development of this site may require review or approval under other federal, State, or local programs. Also, any construction activities in surface waters or wetlands may require permit authorization from the U.S. Army Corps of Engineers and/or DEQ.

Permit No. VA0024732
Massanutten Public Service Corporation STP
Page 2

If you have questions about this permit, please contact me at brandon.kiracofe@deq.virginia.gov
or 540-574-7892.

Sincerely,



Brandon D. Kiracofe
Regional Water Permits & Compliance Manager

Enclosure: Permit No. VA0024732
cc: EPA, Region III – 3WP12 (electronic)
L. Ferguson-Davie – VRO (electronic)
FileNet – VA0024732

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

4411 Early Road - P.O. Box 3000

Harrisonburg, VA 22801

SUBJECT: Reissuance of VPDES Permit No. VA0024732
Massanutten Public Service Corporation STP

TO: Regional Director

FROM: Regional Water Permits & Compliance Manager

Brandon D. Kinsch

DATE: March 28, 2016

COPIES: VRO Permit Processing File

Other Agency Comments:

On November 2, 2015, EPA indicated that they had exercised their discretion to perform a limited review of the draft permit for adherence to impaired waters requirements and that they had no comments concerning adherence to the impaired waters requirements. On November 5, 2015, EPA requested a full 90-day review of the draft permit. On January 6, 2016, EPA provided the following comments: 1) an analysis should be performed to assure that the Chesapeake Bay Allocation and the additional traded loads do not negatively affect the receiving stream or the downstream Shenandoah River; 2) an analysis of the protective nature of the annual average permitting approach should be further documented; and 3) if a reference stream approach was used that should be documented in the fact sheet.

No other agency comments were received.

Public Notice Comments:

During the draft permit public comment period, there were 23 commenters, all of whom requested a public hearing. Based on a review of the requests for public hearing received during the public comment period, the number of individual requests (23) for a public hearing failed to meet the statutory requirements of significant public interest (25 individual requests) to prompt the convening of a public hearing. All of the commenters have been notified of that determination. All of the comments received relative to the permit have been considered and DEQ's responses to those issues were provided by email dated March 28, 2016.

Draft Permit Revisions:

Revisions to the draft permit were made following the public comment period and are presented on the next page. Of particular note, annual average concentration limits of TN = 4.0 mg/L and TP = 0.3 mg/L were included for the existing 1.5 MGD facility which reflect the concentrations that were used to establish the load limits for this facility in the General VPDES Watershed Permit Regulation for TN and TP Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9VAC25-820). A schedule of compliance has been included for meeting the annual average concentration limits. Also, the flow frequencies utilized in the permit limit development were assumed to be zero resulting in more stringent Ammonia-N and Total Residual Chlorine effluent limits.

Cover Page	<ul style="list-style-type: none"> The effective date was changed to April 1, 2016. The expiration date was changed to December 31, 2020.
Part I.A.1	<ul style="list-style-type: none"> The seasonal Ammonia-N limits were removed and more stringent limits were included for the annual Ammonia-N limits. Total Phosphorus and Total Nitrogen monitoring and limits were included along with footnote “g” that references interim limits and a schedule of compliance. The 1/Year monitoring frequency was defined. Footnote “e” was revised to reflect that Total Phosphorus and Total Nitrogen concentration limits were included.
Part I.A.2	<ul style="list-style-type: none"> The seasonal Ammonia-N limits were removed and more stringent limits were included for the annual Ammonia-N limits. Total Phosphorus and Total Nitrogen monitoring and limits were included along with footnote “g” that references interim limits and a schedule of compliance. The 1/Year monitoring frequency was defined. Footnote “e” was revised to reflect that Total Phosphorus and Total Nitrogen concentration limits were included.
Part I.A.3	The seasonal Ammonia-N limits were removed and more stringent limits were included for the annual Ammonia-N limits.
Part I.B.1.b	More stringent TRC limits were included.
Part I.D.1.f	The testing period for the 1 st Annual toxicity testing was revised to reflect a start date of April 1, 2016.
Part I.F	Interim limits and a schedule of compliance for Total Nitrogen and Total Phosphorus were included.
Attachment B	The QLs for Antimony, Arsenic, Chromium III, Chromium VI, Lead, Nickel, Selenium, Silver, and Zinc were lowered.

Staff Comments:

Processing of this permit was delayed while addressing the comments that were received during the draft permit public comment period.

Permit Required Special Condition and e-DMR Due Dates*

Facility Name: Massanutten Public Service Corporation STP	Permit No: VA0024732
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Special Condition	Due Date
Submit 1st Year Annual Chronic Toxicity Test	1/10/2017
Submit Schedule of Compliance Progress Report #1	1/10/2017
Submit 2nd Year Annual Chronic Toxicity Test	1/10/2018
Submit Schedule of Compliance Progress Report #2	1/10/2018
Submit 3rd Year Annual Chronic Toxicity Test	1/10/2019
Submit Schedule of Compliance Progress Report #3	1/10/2019
Submit 4th Year Annual Chronic Toxicity Test	1/10/2020
Submit Attachment A WQC Monitoring	7/4/2020
Submit VPDES Permit Application	7/4/2020
Submit 5th Year Annual Chronic Toxicity Test	7/10/2020

*This list is intended to assist the permittee; however, it is not intended to supersede any permit requirements.

e-DMR Monitoring Periods and Due Dates Based on Calendar Reporting				
Permit Effective Date	Monitoring Start Date	Reporting Frequency	1st DMR Due Date	Monitoring Period Example
4/1/2016	4/1/2016	Monthly	5/10/2016	4/1/2016 - 4/30/2016
4/1/2016	1/1/2017	Annual	1/10/2018	1/1/2017 - 12/31/2017



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. VA0024732

Effective Date: April 1, 2016

Expiration Date: December 31, 2020

**AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND**

THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I - Effluent Limitations and Monitoring Requirements, and Part II – Conditions Applicable To All VPDES Permits, as set forth herein.

Owner: **Massanutten Public Service Corporation**
Facility Name: **Massanutten Public Service Corporation STP**
County: **Rockingham**
Facility Location: **1550 Resort Drive, McGaheysville**

The owner is authorized to discharge to the following receiving stream:

Stream: **Quail Run**
River Basin: **Potomac**
River Subbasin: **Shenandoah**
Section: **2d**
Class: **IV**
Special Standards: **pH**

A handwritten signature in blue ink, appearing to read "Amy T. Owens".

Amy T. Owens, Regional Director
Valley Regional Office

Date: March 28, 2016

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date, or until three consecutive monthly average flows equal or exceed 0.95 MGD, or until the issuance of the Certificate to Operate (CTO) for the 2.0 MGD facility, whichever occurs first, the permittee is authorized to discharge from Outfall 001.

This discharge shall be limited and monitored as specified below:

<u>EFFLUENT CHARACTERISTICS</u>			<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	<u>Monthly Average</u>		<u>Weekly Average</u>		<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD) ^a	NL		NA		NA	NL	Continuous	TIRE
pH (standard units)	NA		NA		6.5	9.5	1/Day	Grab
BOD ₅ ^c	10 mg/L	36 kg/d	15 mg/L	54 kg/d	NA	NA	3/Week	8 HC
Total Suspended Solids ^{c,d}	30 mg/L	110 kg/d	45 mg/L	160 kg/d	NA	NA	1/Month	8 HC
E. coli (N/100 mL) ^b	126						3/Week	
	Geometric Mean		NA		NA	NA	10 a.m. to 4 p.m.	Grab
Dissolved Oxygen (mg/L)	NA		NA		7.5	NA	1/Day	Grab
Ammonia-N (mg/L) ^c	1.4		1.9		NA	NA	3/Week	8 HC
Total Phosphorus – Year to Date (mg/L) ^c	NL		NA		NA	NA	1/Month	Calculated
Total Phosphorus – Calendar Year (mg/L) ^{c,g}	0.3		NA		NA	NA	1/Year	Calculated
Total Nitrogen – Year to Date (mg/L) ^c	NL		NA		NA	NA	1/Month	Calculated
Total Nitrogen – Calendar Year (mg/L) ^{c,g}	4.0		NA		NA	NA	1/Year	Calculated

NL = No Limitation, monitoring required NA = Not Applicable TIRE = Totalizing, Indicating, and Recording Equipment
3/Week = 3 samples taken during the calendar week, no less than 48 hours apart
1/Year = Annual sampling with the results submitted with the DMR due January 10th of each year

8 HC = 8-Hour Composite

- a. The design flow of this treatment facility is 1.5 MGD. The above effluent limitations and monitoring requirements are based on a permitted flow tier of 0.95 MGD. See Part I.E.1 for additional requirements related to facility flows.
- b. See Part I.B for disinfection requirements.
- c. See Part I.C for additional monitoring and reporting instructions.
- d. At least 85% removal for TSS shall be attained for this discharge.
- e. In addition to any Total Nitrogen or Total Phosphorus concentration limits listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN010039, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.
- f. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- g. See Part I.F for interim limits and schedule of compliance.

2. During the period following three consecutive monthly average flows which equal or exceed 0.95 MGD, and lasting until the permit's expiration date or until the issuance of the Certificate to Operate (CTO) for the 2.0 MGD facility, whichever occurs first, the permittee is authorized to discharge from Outfall 001.

This discharge shall be limited and monitored as specified below:

	<u>EFFLUENT CHARACTERISTICS</u>		<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	<u>Monthly Average</u>		<u>Weekly Average</u>		<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD) ^a	NL		NA		NA	NL	Continuous	TIRE
pH (standard units)	NA		NA		6.5	9.5	1/Day	Grab
BOD ₅ ^c	10 mg/L	57 kg/d	15 mg/L	85 kg/d	NA	NA	5/Week	24 HC
Total Suspended Solids ^{c,d}	30 mg/L	170 kg/d	45 mg/L	260 kg/d	NA	NA	1/Month	24 HC
	126						3/Week	
E. coli (N/100 mL) ^b	Geometric Mean		NA		NA	NA	10 a.m. to 4 p.m.	Grab
Dissolved Oxygen (mg/L)	NA		NA		7.5	NA	1/Day	Grab
Ammonia-N (mg/L) ^c	1.3		1.7		NA	NA	5/Week	24 HC
Total Phosphorus – Year to Date (mg/L) ^c	NL		NA		NA	NA	1/Month	Calculated
Total Phosphorus – Calendar Year (mg/L) ^{c,g}	0.3		NA		NA	NA	1/Year	Calculated
Total Nitrogen – Year to Date (mg/L) ^c	NL		NA		NA	NA	1/Month	Calculated
Total Nitrogen – Calendar Year (mg/L) ^{c,g}	4.0		NA		NA	NA	1/Year	Calculated

NL = No Limitation, monitoring required NA = Not Applicable TIRE = Totalizing, Indicating, and Recording Equipment
3/Week = 3 samples taken during the calendar week, no less than 48 hours apart
5/Week = 5 samples taken, one per day, during the calendar week
1/Year = Annual sampling with the results submitted with the DMR due January 10th of each year

24 HC = 24-Hour Composite

- The design flow of this treatment facility is 1.5 MGD. See Part I.E.1 for additional requirements related to facility flows.
- See Part I.B for disinfection requirements.
- See Part I.C for additional monitoring and reporting instructions.
- At least 85% removal for TSS shall be attained for this discharge.
- In addition to any Total Nitrogen or Total Phosphorus concentration limits listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN010039, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.
- There shall be no discharge of floating solids or visible foam in other than trace amounts.
- See Part I.F for interim limits and schedule of compliance.

3. Upon issuance of the CTO for the 2.0 MGD facility, the following effluent limitations and monitoring requirements shall become effective at Outfall 001 and remain in effect until the permit's expiration date.

This discharge shall be limited and monitored as specified below:

<u>EFFLUENT CHARACTERISTICS</u>			<u>DISCHARGE LIMITATIONS</u>			<u>MONITORING REQUIREMENTS</u>		
	<u>Monthly Average</u>		<u>Weekly Average</u>		<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD) ^a	NL		NA		NA	NL	Continuous	TIRE
pH (standard units)	NA		NA		6.5	9.5	1/Day	Grab
BOD ₅ ^c	10 mg/L	75.7 kg/d	15 mg/L	110 kg/d	NA	NA	5/Week	24 HC
Total Suspended Solids ^c	22 mg/L	170 kg/d	33 mg/L	250 kg/d	NA	NA	1/Month	24 HC
E. coli (N/100 mL) ^b	126						5/Week	
	Geometric Mean		NA		NA	NA	10 a.m. to 4 p.m.	Grab
Dissolved Oxygen (mg/L)	NA		NA		7.5	NA	1/Day	Grab
Ammonia-N (mg/L) ^c	1.3		1.7		NA	NA	5/Week	24 HC
Total Phosphorus – Year to Date (mg/L) ^c	NL		NA		NA	NA	1/Month	Calculated
Total Phosphorus – Calendar Year (mg/L) ^c	0.23		NA		NA	NA	1/Year	Calculated
Total Nitrogen – Year to Date (mg/L) ^c	NL		NA		NA	NA	1/Month	Calculated
Total Nitrogen – Calendar Year (mg/L) ^c	3.0		NA		NA	NA	1/Year	Calculated

NL = No Limitation, monitoring required

NA = Not Applicable

TIRE = Totalizing, Indicating, and Recording Equipment

24 HC = 24-Hour Composite

5/Week = 5 samples taken, one per day, during the calendar week

1/Year = Annual sampling with the results submitted with the DMR due January 10th of each year

- The design flow of this treatment facility is 2.0 MGD. See Part I.E.1 for additional requirements related to facility flows.
- See Part I.B for disinfection requirements.
- See Part I.C for additional monitoring and reporting instructions.
- In addition to any Total Nitrogen or Total Phosphorus concentration limits listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN010039, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.
- There shall be no discharge of floating solids or visible foam in other than trace amounts.

B. TOTAL RESIDUAL CHLORINE (TRC) AND E. COLI LIMITATIONS AND MONITORING REQUIREMENTS

If chlorination is chosen as a disinfection method, TRC shall be limited and monitored by the permittee as specified below.

1. a. For the 0.95 MGD flow tier, effluent TRC shall be monitored, following dechlorination, 3/Day at 4-hour intervals by grab sample and limited as specified below.
- b. For the 1.5 MGD and 2.0 MGD flow tiers, effluent TRC shall be monitored, following dechlorination, 4/Day at 4-hour intervals by grab sample and limited as specified below.

<u>Flow Tier</u>	<u>Monthly Average Limits</u>	<u>Weekly Average Limits</u>
0.95 MGD	0.0074 mg/L	0.0084 mg/L
1.5 MGD	0.0073 mg/L	0.0081 mg/L
2.0 MGD	0.0073 mg/L	0.0081 mg/L

2. a. For the 0.95 MGD flow tier, TRC shall be monitored at the outlet of each operating chlorine contact tank, prior to dechlorination, 3/Day at 4-hour intervals by grab sample.
- b. For the 1.5 MGD and 2.0 MGD flow tiers, TRC shall be monitored at the outlet of each operating chlorine contact tank, prior to dechlorination, 4/Day at 4-hour intervals by grab sample.
3. a. For the 0.95 MGD flow tier, no more than 9 samples for TRC taken after each operating chlorine contact tank, prior to dechlorination, shall be less than 1.0 mg/L for any one calendar month.
- b. For the 1.0 MGD and 2.0 MGD flow tiers, no more than 12 samples for TRC taken after each operating chlorine contact tank, prior to dechlorination, shall be less than 1.0 mg/L for any one calendar month.
4. No TRC sample collected at the outlet of any operating chlorine contact tank, prior to dechlorination, shall be less than 0.6 mg/L.

5. E. coli limitations and monitoring:

	<u>Discharge Limit</u>	<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
E. coli (N/100 mL)	126 (Geometric Mean)	4/Month in any month of each calendar quarter * 10 a.m. to 4 p.m.	Grab

* 4/Month in any calendar month each quarter = 4 samples taken, with at least 1 sample taken each calendar week, in any calendar month of each quarter and reported with the DMRs due January 10th, April 10th, July 10th and October 10th of each year

The requirements in Part I.B.1-5 above, if applicable, shall substitute for the E. coli requirements specified in Part I.A.

C. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - ADDITIONAL INSTRUCTIONS

1. The quantification levels (QLs) shall be less than or equal to the following concentrations:

<u>Effluent Characteristic</u>	<u>QL</u>
BOD ₅	2 mg/L
Total Suspended Solids	1.0 mg/L
Chlorine	0.10 mg/L
Ammonia-N	0.20 mg/L

The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II.A of this permit.

2. Compliance Reporting

- a. Monthly Average – Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I.C.1 shall be determined as follows: All concentration data below the QL used for the analysis shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.
- b. Weekly Average – Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in Part I.C.1 shall be determined as follows: All concentration data below the QL used for the analysis shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis, then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.
- c. Single Datum – Any single datum required shall be reported as "<QL" if it is less than the QL used for the analysis. Otherwise the numerical value shall be reported.
- d. The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used (i.e., 5 always rounding up or to the nearest even number) by the permittee, the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

- e. Nutrient reporting calculations – The reporting calculations below shall be performed using the concentration monitoring required by the general permit, VAN010039.

For each calendar month, the DMR shall show the calendar year-to-date average concentration (mg/L) calculated in accordance with the following formula:

$$AC_{avg}\text{-YTD} = (\sum_{(\text{Jan-current month})} MC_{avg}) \div (\# \text{ of months })$$

where:

$AC_{avg}\text{-YTD}$ = calendar year-to-date average concentration (mg/L)

MC_{avg} = monthly average concentration (mg/L)

The Total Nitrogen (TN) and Total Phosphorus (TP) average concentrations (mg/L) for each calendar year (AC) shall be shown on the December DMR due January 10th of the following year. These values shall be calculated in accordance with the following formula:

$$AC_{avg} = (\sum_{(\text{Jan-Dec})} MC_{avg}) \div 12$$

where:

AC_{avg} = calendar year average concentration (mg/L)

MC_{avg} = monthly average concentration (mg/L)

For TP, all daily concentration data below the quantification level (QL) for the analytical method used shall be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.

For TN, if none of the daily concentration data for the respective species (i.e., TKN, Nitrates/Nitrites) are equal to or above the QL for the respective analytical methods used, the daily TN concentration value reported shall equal one half of the largest QL used for the respective species. If one of the data is equal to or above the QL, the daily TN concentration value shall be treated as that data point is reported. If more than one of the data is above the QL, the daily TN concentration value shall equal the sum of the data points as reported.

D. WHOLE EFFLUENT TOXICITY (WET) REQUIREMENTS

1. 0.95 MGD and 1.5 MGD Flow Tiers

- a. In accordance with the schedule in Part I.D.1.f, the permittee shall conduct annual chronic toxicity tests using 24-hour flow-proportioned composite samples of final effluent collected from Outfall 001.

The chronic tests shall be a Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia* and a Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*. Each test shall be performed with a minimum of 5 dilutions, derived geometrically, in order to determine the No Observed Effect Concentration (NOEC) for survival and reproduction or growth. Results which cannot be determined (i.e. a "less than" or "zero" NOEC value) are not acceptable, and a retest requiring further dilution must be performed. Any retest of an unacceptable test must be performed within the same testing period as the unacceptable test. Such "less than" or "zero" results must be submitted and will be regarded as evidence of effluent toxicity. Express the results as chronic Toxicity Units (TU_c) by dividing $100/NOEC$. Report the LC_{50} for each chronic test at the 48-hour point, and the IC_{25} , if calculable, with the NOECs in the required test report.

- b. Should chronic WET monitoring result in a 48-hour $LC_{50} \leq 100\%$, the permittee shall commence acute toxicity tests using 24-hour flow-proportioned composite samples of final effluent collected from Outfall 001. This monitoring shall be in accordance with the acute toxicity WET test report schedule included in Part I.D.1.g. The acute tests shall be a 48-Hour Static Acute test using *Ceriodaphnia dubia* and a 48-Hour Static Acute test using *Pimephales promelas*. Each test shall be performed with a minimum of 5 dilutions, derived geometrically, with a minimum of 4 replicates per dilution and a minimum of 5 organisms per replicate for calculation of a valid No Observed Adverse Effect Concentration (NOAEC). The LC_{50} should also be determined, noted, and submitted in the required test report. Tests in which control survival is less than 90% are not acceptable. Any retest of an unacceptable test must be performed within the same testing period as the unacceptable test.
- c. During the term of the permit, the permittee may provide additional samples to address data variability. These data shall be reported and may be included in the evaluation of effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.
- d. The test dilutions shall be able to determine compliance with the following endpoints:

<u>Flow Tier (MGD)</u>	<u>Acute Endpoints</u>	<u>Chronic Endpoints (TU_c)</u>
0.95	100%	100% (1.0)
1.5	100%	100% (1.0)

- e. The test data will be evaluated for reasonable potential at the conclusion of the permit term. The data may be evaluated sooner if requested by the permittee, or if toxicity has been noted. Should evaluation of the data indicate that a limit is needed, a WET limit and compliance schedule may be required and the toxicity tests of Part I.D.1.a may be discontinued. If the data indicate that no limit is needed, the permittee shall continue chronic toxicity testing of the outfall, as specified in Part I.D.1.f.
- f. The permittee shall supply 1 copy of the test report for the toxicity tests specified in Part I.D.1.a in accordance with the following schedule:

<u>Monitoring Period</u>	<u>Testing Period</u>	<u>Report Submittal Dates</u>
1 st Annual	April 1 – December 31, 2016	January 10, 2017
2 nd Annual	January 1 – December 31, 2017	January 10, 2018
3 rd Annual	January 1 – December 31, 2018	January 10, 2019
4 th Annual	January 1 – December 31, 2019	January 10, 2020
5 th Annual	January 1 – June 30, 2020	July 10, 2020

- g. The permittee shall supply 1 copy of the test report for the acute toxicity tests specified in Part I.D.1.b in accordance with the following schedule:

<u>Monitoring Period</u>	<u>Testing Period</u>	<u>Report Submittal Dates</u>
1 st Quarter	The first full calendar quarter following a determination of a 48-Hour $LC_{50} \leq 100\%$ in the chronic test	By the 10 th day of the month following the testing period
Quarterly	Every calendar quarter following the previous quarter	By the 10 th day of the month following the testing period

2. 2.0 MGD Flow Tier

- a. In accordance with the schedule in Part I.D.2.e, the permittee shall conduct quarterly acute and chronic toxicity tests using 24-hour flow-proportioned composite samples of final effluent collected from Outfall 001.

The acute tests shall be a 48-Hour Static Acute test using *Ceriodaphnia dubia* and a 48-Hour Static Acute test using *Pimephales promelas*. Each test shall be performed with a minimum of 5 dilutions, derived geometrically, with a minimum of 4 replicates per dilution and a minimum of 5 organisms per replicate for calculation of a valid No Observed Adverse Effect Concentration (NOAEC). The NOAEC should be determined by hypothesis testing. The LC_{50} should also be determined, noted, and submitted in the required test report. Tests in which control survival is less than 90% are not acceptable. Any retest of an unacceptable test must be performed within the same testing period as the unacceptable test.

The chronic tests shall be a Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia* and a Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*. Each test shall be performed with a minimum of 5 dilutions, derived geometrically, in order to determine the No Observed Effect Concentration (NOEC) for survival and reproduction or growth. Results which cannot be determined (i.e. a "less than" or "zero" NOEC value) are not acceptable, and a retest requiring further dilution must be performed. Any retest of an unacceptable test must be performed within the same testing period as the unacceptable test. Such "less than" or "zero" results must be submitted and will be regarded as evidence of effluent toxicity. Express the results as chronic Toxicity Units (TU_c) by dividing $100/NOEC$. Report the LC_{50} for each chronic test at the 48-hour point, and the IC_{25} , if calculable, with the NOECs in the required test report.

- b. During the term of the permit, the permittee may provide additional samples to address data variability. These data shall be reported and may be included in the evaluation of effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.
- c. The test dilutions shall be able to determine compliance with the following endpoints:
- (1) Acute NOAEC of 100%
 - (2) Chronic NOEC of 100%, equivalent to $1.0 TU_c$
- d. The test data will be evaluated for reasonable potential at the conclusion of the permit term. The data may be evaluated sooner if requested by the permittee, or if toxicity has been noted. Should evaluation of the data indicate that a limit is needed, a WET limit and compliance schedule may be required and the toxicity tests of Part I.D.2.a may be discontinued. If the data indicate that no limit is needed, the permittee shall continue acute and chronic toxicity testing of the outfall annually, as specified in Part I.D.2.e.

- e. The permittee shall supply 1 copy of the test report for the toxicity tests specified in Part I.D.2.a in accordance with the following schedule:

<u>Monitoring Period</u>	<u>Testing Period</u>	<u>Report Submittal Dates</u>
1 st Quarter	The first full calendar quarter following the 6 month anniversary of the issuance of the CTO for the 2.0 MGD facility	By the 10 th day of the month following the testing period
Quarterly thereafter	Every quarter following the previous quarter until there are a minimum of 4 quarters tested	By the 10 th day of the month following the testing period
1 st Annual	The first full calendar year following the 4 completed quarterly tests	By the 10 th day of January following the testing period
Annually thereafter	Every calendar year following the 1 st annual testing period	By the 10 th day of January following the testing period

E. OTHER REQUIREMENTS AND SPECIAL CONDITIONS

1. 95% Capacity Reopener – A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the DEQ-Valley Regional Office when the monthly average influent flow to the wastewater treatment facility reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ-Valley Regional Office no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.
2. Indirect Dischargers – The permittee shall provide adequate notice to the DEQ-Valley Regional Office of the following:
 - a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and
 - b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

Adequate notice shall include information on 1) the quality and quantity of effluent introduced into the treatment works, and 2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. Materials Handling/Storage – Any and all product, materials, or wastes shall be handled, disposed of, and/or stored in such a manner and consistent with Best Management Practices, so as not to permit a discharge of such product, materials, or other wastes to State waters, except as expressly authorized.

4. Operation and Maintenance (O&M) Manual Requirement – The permittee shall maintain a current O&M Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and (for sewage treatment plants) Sewage Collection and Treatment Regulations, 9VAC25-790.

The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to DEQ personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ-Valley Regional Office for review and approval.

The O&M Manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, storm water, and sludge samples;
 - b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
 - c. Discussion of Best Management Practices, if applicable;
 - d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants characterized in Part I.E.3 that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;
 - e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;
 - f. Plan for the management and/or disposal of waste solids and residues;
 - g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;
 - h. List of facility, local, and state emergency contacts; procedures for reporting and responding to any spills/overflows/treatment works upsets; and
 - i. Procedures for documenting compliance with the permit requirement that there shall be no discharge of floating solids or visible foam in other than trace amounts.
5. Certificate to Construct (CTC) / Certificate to Operate (CTO) Requirement – The permittee shall, in accordance with the DEQ Sewage Collection and Treatment Regulation (9VAC25-790), obtain a CTC and a CTO prior to constructing and operating the wastewater treatment works. Noncompliance with the CTC or CTO shall be deemed a violation of the permit.
 6. Licensed Operator Requirement – The permittee shall employ or contract at least one Class II licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations. The permittee shall notify the DEQ-Valley Regional Office in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.
 7. Reliability Class – The permitted treatment works shall meet Reliability Class II.

8. **Water Quality Criteria Monitoring** – The permittee shall monitor the effluent at Outfall 001 for the substances noted in Attachment A and Attachment B of this permit according to the indicated analysis number, quantification level, sample type and frequency. Monitoring for the 1.5 MGD facility specified in Attachment A shall be performed once after the start of the third year from the permit's effective date. Using Attachment A as the reporting form, the data shall be submitted with the next permit reissuance application which is due at least 180 days prior to the expiration date of this permit. Monitoring for the 2.0 MGD facility specified in Attachment B shall be performed within 1 year following issuance of the CTO. Using Attachment B as the reporting form, the data shall be submitted by the 10th of the following month. Monitoring and analyses shall be conducted in accordance with 40 CFR Part 136 or alternative EPA approved methods. Methods other than those specified in Attachment A or Attachment B may be used with prior notification to and approval from DEQ. It is the responsibility of the permittee to ensure that proper QA/QC protocols are followed during the sample gathering and analytical procedures. DEQ will use these data for making specific permit decisions in the future. This permit may be modified or, alternatively, revoked and reissued to incorporate limits for any of the substances listed in Attachment A or Attachment B.
9. **Treatment Works Closure Plan** – If the permittee plans an expansion or upgrade to replace the existing treatment works, or if the facility is permanently closed, the permittee shall submit to the DEQ-Valley Regional Office a closure plan for the existing treatment works. The plan shall address the following information as a minimum: Verification of elimination of sources and/or alternate treatment scheme; treatment, removal and final disposition of residual wastewater and solids; removal/demolition/disposal of structures, equipment, piping and appurtenances; site grading, and erosion and sediment control; restoration of site vegetation; access control; fill materials; and proposed land use (post-closure) of the site. The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation. Once approved, the plan shall become an enforceable part of this permit and closure shall be implemented in accordance with the approved plan. The permittee may continue discharging until the effluent no longer meets the permit limits or the permit expires, whichever occurs first. No later than 14 days following closure completion, the permittee shall submit to the DEQ-Valley Regional Office written notification of the closure completion date and a certification of closure in accordance with the approved plan.
10. **Reopeners** – This permit may be modified or, alternatively, revoked and reissued:
 - a. If any approved waste load allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes waste load allocations, limits or conditions on the facility that are not consistent with the permit requirements; or
 - b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion or upgrade; or
 - c. To include new or alternative nutrient limitations and/or monitoring requirements, should:
 - (1) The State Water Control Board adopt nutrient standards for the water body receiving the discharge, or
 - (2) A future water quality regulation or statute require new or alternative nutrient control; or

11. The annual average concentration limitations for TN and/or TP are suspended during any calendar year in which the facility is considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level, provided that the following conditions have also been met:
- The facility has applied for (or renewed) participation, been accepted, maintained a record of sustained compliance and submitted an annual report according to the program guidelines;
 - The facility has demonstrated that they have in place a fully implemented environmental management system (EMS) with an alternative compliance method that includes operation of installed nutrient removal technologies to achieve the annual average concentration limitations; and
 - The E3/E4 designation from DEQ and implementation of the EMS has been in effect for the full calendar year.

The annual average concentration limitations for TN and/or TP, as applicable, are not suspended in any calendar year following a year in which the facility failed to achieve the annual average concentration limitations as required by Part I.E.11.b.

12. Stormwater Management – Upon completion of construction and not later than issuance of the CTO for the new/upgraded/expanded facility, the permittee will either: 1) submit a NEC certifying a condition of no exposure exists; or 2) submit a Registration Statement and the appropriate fee for coverage under the General VPDES Permit for Discharges of Stormwater Associated with Industrial Activity; or 3) submit a request to modify the permit to incorporate the Stormwater Special Conditions.

F. INTERIM LIMITS AND SCHEDULE OF COMPLIANCE

- The final limits for Total Phosphorus and Total Nitrogen and specified in Part I.A.1 and Part I.A.2 become effective on January 1, 2020.
- Until January 1, 2020, the discharge from Outfall 001 shall be limited and monitored as follows:

	<u>Discharge</u>	<u>Monitoring Requirements</u>	
	<u>Limit</u>	<u>Frequency</u>	<u>Sample Type</u>
Total Phosphorus – Calendar Year (mg/L)	NL	1/Year	Calculated
Total Nitrogen – Calendar Year (mg/L)	NL	1/Year	Calculated

- The permittee shall submit a progress report by January 10, 2017 and annually thereafter until the final limits become effective.

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OUTFALL NO. 001, 1.5 MGD Facility

All analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website:

<http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx>

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
MISCELLANEOUS						
18496-25-8	Sulfide, dissolved ⁽⁴⁾	(3)	100		G or C	1/5 YR

Name of Principal Executive Officer or Authorized Agent/Title

Signature of Principal Executive Officer or Authorized Agent/Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

Footnotes to Water Quality Monitoring Attachment A

- (1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

- (2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = An 8-hour composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

- (3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from (i) any approved method presented in 40 CFR Part 136 or (ii) any alternative EPA approved method, provided that all analyses are in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.
- (4) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

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OUTFALL NO. 001, 2.0 MGD Facility

All analyses shall be in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

A listing of Virginia Environmental Laboratory Accreditation Program (VELAP) certified and/or accredited laboratories can be found at the following website:

<http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification/tabid/1059/Default.aspx>

Please be advised that additional water quality analyses may be necessary and/or required for permitting purposes.

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
METALS						
7440-36-0	Antimony, dissolved	(3)	640		G or C	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	90		G or C	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	1.3		G or C	1/5 YR
16065-83-1	Chromium III, dissolved ⁽⁶⁾	(3)	85		G or C	1/5 YR
18540-29-9	Chromium VI, dissolved ⁽⁶⁾	(3)	6.4		G or C	1/5 YR
7440-50-8	Copper, dissolved	(3)	11		G or C	1/5 YR
7439-92-1	Lead, dissolved	(3)	22		G or C	1/5 YR
7439-97-6	Mercury, dissolved	(3)	1.0		G or C	1/5 YR
7440-02-0	Nickel, dissolved	(3)	24		G or C	1/5 YR
7782-49-2	Selenium, total recoverable	(3)	3.0		G or C	1/5 YR
7440-22-4	Silver, dissolved	(3)	5.3		G or C	1/5 YR
7440-28-0	Thallium, dissolved	(3)	(4)		G or C	1/5 YR
7440-66-6	Zinc, dissolved	(3)	91		G or C	1/5 YR
PESTICIDES/PCBS						
309-00-2	Aldrin	608/625	0.05		G or C	1/5 YR
57-74-9	Chlordane	608/625	0.2		G or C	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(4)		G or C	1/5 YR
72-54-8	DDD	608/625	0.1		G or C	1/5 YR
72-55-9	DDE	608/625	0.1		G or C	1/5 YR
50-29-3	DDT	608/625	0.1		G or C	1/5 YR
8065-48-3	Demeton (synonym = Dementon-O,S)	622	(4)		G or C	1/5 YR
333-41-5	Diazinon	622	(4)		G or C	1/5 YR
60-57-1	Dieldrin	608/625	0.1		G or C	1/5 YR
959-98-8	Alpha-Endosulfan (synonym = Endosulfan I)	608/625	0.1		G or C	1/5 YR
33213-65-9	Beta-Endosulfan (synonym = Endosulfan II)	608/625	0.1		G or C	1/5 YR
1031-07-8	Endosulfan Sulfate	608/625	0.1		G or C	1/5 YR

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CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
72-20-8	Endrin	608/625	0.1		G or C	1/5 YR
7421-93-4	Endrin Aldehyde	608/625	(4)		G or C	1/5 YR
86-50-0	Guthion (synonym = Azinphos Methyl)	622	(4)		G or C	1/5 YR
76-44-8	Heptachlor	608/625	0.05		G or C	1/5 YR
1024-57-3	Heptachlor Epoxide	608/625	(4)		G or C	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608/625	(4)		G or C	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608/625	(4)		G or C	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC (synonym = Lindane)	608/625	(4)		G or C	1/5 YR
143-50-0	Kepone	8081 Extended/ 8270C/8270D	(4)		G or C	1/5 YR
121-75-5	Malathion	614	(4)		G or C	1/5 YR
72-43-5	Methoxychlor	608.2	(4)		G or C	1/5 YR
2385-85-5	Mirex	8081 Extended/ 8270C/8270D	(4)		G or C	1/5 YR
56-38-2	Parathion (synonym = Parathion Ethyl)	614	(4)		G or C	1/5 YR
1336-36-3	PCB, total	608/625	7.0		G or C	1/5 YR
8001-35-2	Toxaphene	608/625	5.0		G or C	1/5 YR
BASE NEUTRAL EXTRACTABLES						
83-32-9	Acenaphthene	610/625	10.0		G or C	1/5 YR
120-12-7	Anthracene	610/625	10.0		G or C	1/5 YR
92-87-5	Benzidine	625	(4)		G or C	1/5 YR
56-55-3	Benzo (a) anthracene	610/625	10.0		G or C	1/5 YR
205-99-2	Benzo (b) fluoranthene	610/625	10.0		G or C	1/5 YR
207-08-9	Benzo (k) fluoranthene	610/625	10.0		G or C	1/5 YR
50-32-8	Benzo (a) pyrene	610/625	10.0		G or C	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	(4)		G or C	1/5 YR
108-60-1	Bis 2-Chloroisopropyl Ether	625	(4)		G or C	1/5 YR
117-81-7	Bis-2-Ethylhexyl Phthalate (synonym = Di-2-Ethylhexyl Phthalate)	625	10.0		G or C	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0		G or C	1/5 YR
91-58-7	2-Chloronaphthalene	625	(4)		G or C	1/5 YR
218-01-9	Chrysene	610/625	10.0		G or C	1/5 YR
53-70-3	Dibenz(a,h)anthracene	610/625	20.0		G or C	1/5 YR
95-50-1	1,2-Dichlorobenzene	602/624	10.0		G or C	1/5 YR
541-73-1	1,3-Dichlorobenzene	602/624	10.0		G or C	1/5 YR

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CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
106-46-7	1,4-Dichlorobenzene	602/624	10.0		G or C	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	(4)		G or C	1/5 YR
84-66-2	Diethyl phthalate	625	10.0		G or C	1/5 YR
131-11-3	Dimethyl phthalate	625	(4)		G or C	1/5 YR
84-74-2	Di-n-butyl Phthalate (synonym = Dibutyl Phthalate)	625	10.0		G or C	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0		G or C	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625/ 8270C/8270D	(4)		G or C	1/5 YR
206-44-0	Fluoranthene	610/625	10.0		G or C	1/5 YR
86-73-7	Fluorene	610/625	10.0		G or C	1/5 YR
118-74-1	Hexachlorobenzene	625	(4)		G or C	1/5 YR
87-68-3	Hexachlorobutadiene	625	(4)		G or C	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	(4)		G or C	1/5 YR
67-72-1	Hexachloroethane	625	(4)		G or C	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	610/625	20.0		G or C	1/5 YR
78-59-1	Isophorone	625	10.0		G or C	1/5 YR
98-95-3	Nitrobenzene	625	10.0		G or C	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	(4)		G or C	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	(4)		G or C	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	(4)		G or C	1/5 YR
129-00-0	Pyrene	610/625	10.0		G or C	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0		G or C	1/5 YR
VOLATILES						
107-02-8	Acrolein	624	(4)		G	1/5 YR
107-13-1	Acrylonitrile	624	(4)		G	1/5 YR
71-43-2	Benzene	602/624	10.0		G	1/5 YR
75-25-2	Bromoform	624	10.0		G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0		G	1/5 YR
108-90-7	Chlorobenzene (synonym = Monochlorobenzene)	602/624	50.0		G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0		G	1/5 YR
67-66-3	Chloroform	624	10.0		G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0		G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0		G	1/5 YR

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CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY
75-35-4	1,1-Dichloroethylene	624	10.0		G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	(4)		G	1/5 YR
78-87-5	1,2-Dichloropropane	624	(4)		G	1/5 YR
542-75-6	1,3-Dichloropropene	624	(4)		G	1/5 YR
100-41-4	Ethylbenzene	602/624	10.0		G	1/5 YR
74-83-9	Methyl Bromide (synonym = Bromomethane)	624	(4)		G	1/5 YR
75-09-2	Methylene Chloride (synonym = Dichloromethane)	624	20.0		G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	(4)		G	1/5 YR
127-18-4	Tetrachloroethylene (synonym = Tetrachloroethene)	624	10.0		G	1/5 YR
10-88-3	Toluene	602/624	10.0		G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	(4)		G	1/5 YR
79-01-6	Trichloroethylene (synonym = Trichloroethene)	624	10.0		G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0		G	1/5 YR
ACID EXTRACTABLES						
95-57-8	2-Chlorophenol	625	10.0		G or C	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0		G or C	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0		G or C	1/5 YR
51-28-5	2,4-Dinitrophenol	625	(4)		G or C	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenol	625	(4)		G or C	1/5 YR
104-40-51	Nonylphenol	ASTM D 7065-06	(4)		G or C	1/5 YR
87-86-5	Pentachlorophenol	625	50.0		G or C	1/5 YR
108-95-2	Phenol	625	10.0		G or C	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0		G or C	1/5 YR
MISCELLANEOUS						
16887-00-6	Chloride	(3)	(4)		C	1/5 YR
57-12-5	Cyanide, Free ⁽⁷⁾	ASTM 4282-02	10.0		G	1/5 YR
18496-25-8	Sulfide, dissolved ⁽⁸⁾	(3)	100		G or C	1/5 YR
60-10-5	Tributyltin	(5)	(4)		G or C	1/5 YR
471-34-1	Hardness (mg/L as CaCO ₃)	(3)	(4)		C	1/5 YR

DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MONITORING

OUTFALL NO. 001, 2.0 MGD Facility

Name of Principal Executive Officer or Authorized Agent/Title

Signature of Principal Executive Officer or Authorized Agent/Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

Footnotes to Water Quality Monitoring Attachment B

- (1) Quantification level (QL) means the minimum levels, concentrations, or quantities of a target variable (e.g. target analyte) that can be reported with a specified degree of confidence in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information (i.e. laboratory certificates of analysis) shall be submitted to document that the required quantification level has been attained.

- (2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

- (3) A specific analytical method is not specified; however, an appropriate method to meet the QL shall be selected from (i) any approved method presented in 40 CFR Part 136 or (ii) any alternative EPA approved method, provided that all analyses are in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.
- (4) The QL is at the discretion of the permittee. If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].
- (5) Analytical Methods: Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996 (currently the only Virginia Environmental Laboratory Accreditation Program (VELAP) accredited method).
- (6) Both Chromium III and Chromium VI may be measured by the total chromium analysis. The total chromium analytical test QL shall be less than or equal to the lesser of the Chromium III or Chromium VI method QL listed above. If the result of the total chromium analysis is less than the analytical test QL, both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].
- (7) Free cyanide may be measured by the total cyanide analysis. The total cyanide analytical test QL shall be less than or equal to the free cyanide method QL listed above. If the result of the total cyanide analysis is less than the analytical test QL, free cyanide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].
- (8) Dissolved sulfide may be measured by the total sulfide analysis. The total sulfide analytical test QL shall be less than or equal to the dissolved sulfide method QL listed above. If the result of the total sulfide analysis is less than the analytical test QL, dissolved sulfide can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring

1. Samples and measurements taken as required by this permit shall be taken at the permit designated or approved location and be representative of the monitored activity.
 - a. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
 - b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.
 - c. Samples taken shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.
2. Any pollutant specifically addressed by this permit that is sampled or measured at the permit designated or approved location more frequently than required by this permit shall meet the requirements in Part I.A.1.a through c above and the results of this monitoring shall be included in the calculations and reporting required by this permit.
3. Operational or process control samples or measurements shall not be taken at the designated permit sampling or measurement locations. Operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. Records

1. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) and time(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after the required monitoring period, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

Department of Environmental Quality
Valley Regional Office
P.O. Box 3000
Harrisonburg, Virginia 22801

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department.
3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II.F; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II.F, shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
 - a. Any unanticipated bypass; and
 - b. Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II.I.1 or 2, in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II.G, H and I may be made to the Department's Valley Regional Office at (540) 574-7892 (voice), (540) 574-7878 (fax), or online at <http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/MakingaReport.aspx>. For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - (1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
 - (2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or
 - c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements

1. Applications. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports, etc. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part II.K.1;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - c. The written authorization is submitted to the Department.
3. Changes to authorization. If an authorization under Part II.K.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2 shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.
4. Certification. Any person signing a document under Parts II.K.1 or 2 shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U), and "upset" (Part II.V) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of solids or sludges

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II.U.2 and U.3.
2. Notice
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.

3. Prohibition of bypass

- a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (3) The permittee submitted notices as required under Part II.U.2.
- b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II.U.3.a.

V. Upset

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required in Part II.I; and
 - d. The permittee complied with any remedial measures required under Part II.S.
3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of Permits

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.
2. As an alternative to transfers under Part II.Y.1, this permit may be automatically transferred to a new permittee if:
 - a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
 - b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

A. BIOSOLIDS LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the permit's effective date and lasting until the permit expiration date, the permittee is authorized to manage Class B biosolids in accordance with 9VAC25-31-420 through 720 and 9VAC25-32-303 through 358, the limitations, conditions and requirements set forth in this permit and the approved Biosolids Management Plan (BSMP).

All biosolids samples shall be collected and analyzed in accordance with Title 40 of the Code of Federal Regulations, Part 503 and 136, and the approved BSMP. Analyses shall be conducted by a VELAP accredited environmental laboratory. The permittee shall ensure that all biosolids generated under authority of this permit and provided to other persons, for the purpose of land application or further treatment, are monitored in accordance with the monitoring requirements as specified below in Part III.A.

1. Annual Production Monitoring

The permittee shall report the annual total amount of sludge produced (in dry metric tons) and annual amount of Class B biosolids (in dry metric tons) distributed for land application.

2. Metals Limitations and Monitoring Requirements

Pollutants in Class B biosolids that are generated and provided to a land applier under the authority of this permit shall be monitored and limited as specified below. Biosolids shall not be provided for land application if the concentration of any pollutant in the biosolids exceeds the ceiling limitation of that pollutant.

PARAMETERS	PC / CPLR LIMITATIONS	CEILING LIMITATIONS	MONITORING REQUIREMENTS	
	Monthly Average (mg/kg) ⁽¹⁾⁽²⁾⁽³⁾	Maximum (mg/kg) ⁽¹⁾⁽²⁾⁽⁴⁾	Frequency ⁽⁵⁾	Sample Type
Arsenic	41	75	1/Year	Composite
Cadmium	39	85	1/Year	Composite
Copper	1,500	4,300	1/Year	Composite
Lead	300	840	1/Year	Composite
Mercury	17	57	1/Year	Composite
Molybdenum	NL ⁽⁶⁾	75	1/Year	Composite
Nickel	420	420	1/Year	Composite
Selenium	100	100	1/Year	Composite
Zinc	2,800	7,500	1/Year	Composite

NA = Not applicable

NL = No limit, monitor and report

1/Year = Sampling each calendar year with the results submitted by February 19th of each year

- (1) All parameters are subject to pollutant concentrations (PC), cumulative pollutant loading rates (CPLR), and ceiling limitations. PC biosolids contain the constituents identified above at concentrations below the monthly average specified in Part III.A.2. CPLR biosolids contain the constituents identified above at concentrations above the monthly average and each sample must be below the ceiling limitations specified in Part III.A.2.
- (2) All limits and criteria are expressed on a dry weight basis.
- (3) Monthly average shall be reported as the average of the results of all samples collected within a calendar month and analyzed using an approved method, in accordance with Part II.A.1-2 of this permit. For monitoring periods which include multiple months, if one sample is collected during the monitoring period, that result shall be reported as the monthly average. If samples are collected in multiple months during the monitoring period, a monthly average shall be calculated for each month in which samples were collected during the monitoring period and the highest monthly average reported. Individual results and calculations shall be submitted with the report.
- (4) The maximum concentration shall be reported as the highest single result from all samples collected and analyzed during a monitoring period.
- (5) The monitoring frequency may be increased during this permit term if DEQ deems it necessary.
- (6) The monthly average concentration for molybdenum is currently under study by USEPA. Research suggests that a monthly average molybdenum concentration below 40 mg/kg may be appropriate to reduce the risk of copper deficiency in grazing animals.

3. Pathogen Reduction Requirements – Biosolids generated and provided to a land applier under this permit shall be treated to meet at least one Pathogen Reduction Alternative as identified in the table below prior to delivery to the land application site. The biosolids shall be monitored and limited in accordance with the treatment options selected and used by the permittee.

PATHOGEN REDUCTION ALTERNATIVE	PROCESS TO SIGNIFICANTLY REDUCE PATHOGENS (PSRP) OPTION	CLASS B PATHOGEN REDUCTION TREATMENT & STANDARDS	MONITORING REQUIREMENTS ⁽¹⁾
1	NA	Fecal coliform monitoring: <2,000,000 MPN/gm or <2,000,000 CFU/gm, geometric mean of 7 samples (9VAC25-31-710.B.3).	1/Year ⁽²⁾
2	1	PSRP: Aerobic Digestion: Sludge mean cell residence time from 40 days at 20°C to 60 days at 15°C (9VAC25-31-710.D.1)	(3)
2	2	PSRP: Air dry in a drying bed for three months. Ambient average daily temperature must be above 0°C for 2 of the 3 months (9VAC25-31-710.D.2)	(3)
2	3	PSRP: Anaerobic digestion for a mean cell residence time between 15 days at 35°C - 55°C up to 60 days at 20°C (9VAC25-31-710.D.3)	(3)
2	4	PSRP: Composting at 40°C or above for 5 or more days, maintaining > 55°C for 4 consecutive hours during the 5 days (9VAC25-31-710.D.4)	(3)
2	5	PSRP: Sufficient lime is added to the sewage sludge to raise the pH of the sewage sludge to 12 S.U. after two hours of contact (9VAC25-31-710.D.5)	(3)
3	PROCESS AS APPROVED	Process equivalent to PSRP: PROCESS AS APPROVED (9VAC25-31-710.B.4)	(3)

NA = Not applicable

1/Year = Sampling each calendar year with the results submitted by February 19th of each year

- (1) The monitoring frequency may be increased during this permit term if DEQ deems it necessary.
 (2) Between sampling events, operating records must demonstrate that the treatment facility is operating at a performance level known to meet pathogen reduction standards.
 (3) Process monitoring must be sufficient to demonstrate compliance with PSRP treatment requirements.

4. Vector Attraction Reduction (VAR) Requirements – Biosolids generated and provided to a land applier under this permit shall be treated to meet at least one VAR Option 1 - 8 as identified in the table below prior to delivery to the land application site or VAR Option 9 or 10 must be performed at the land application site. The biosolids shall be monitored and limited in accordance with the treatment options selected and used by the permittee.

VAR OPTION	VECTOR ATTRACTION REDUCTION TREATMENT STANDARD	MONITORING REQUIREMENTS ⁽¹⁾
1	38% Reduction of volatile solids by digestion (9VAC25-31-720.B.1)	1/Year ⁽²⁾⁽³⁾
2	When 38% reduction is not achieved by anaerobic digestion, 40 day bench study at temperatures between 30°C and 37°C to demonstrate further reduction of volatile solids <17% (9VAC25-31-720.B.2)	1/Year ⁽²⁾⁽³⁾
3	When 38% reduction is not achieved by aerobic digestion, 30 day bench study at 20°C to demonstrate further reduction of volatile solids <15% (9VAC25-31-720.B.3)	1/Year ⁽²⁾⁽³⁾
4	Specific Oxygen Uptake Rate of ≤ 1.5 mg O ₂ /hour/gram total solids at 20°C (aerobically processed sludge) (9VAC25-31-720.B.4)	1/Year ⁽²⁾⁽³⁾
5	14 day aerobic process, temperatures above 40°C with an average temperature of >45°C (9VAC25-31-720.B.5)	(3)
6	Sufficient alkali is added to the sewage sludge to raise the pH of the sewage sludge to 12 or higher, and without the addition of more alkali, maintain the pH at 12 S.U. for two hours and then at 11.5 S.U. or higher for an additional 22 hours (9VAC25-31-720.B.6)	(3)
7	Where biosolids do not contain unstabilized solids from primary wastewater treatment, the percent solids of the biosolids shall be $\geq 75\%$ (9VAC25-31-720.B.7)	1/Year ⁽²⁾⁽³⁾
8	Where biosolids contain unstabilized solids from primary wastewater treatment, the percent solids of the biosolids shall be $\geq 90\%$ (9VAC25-31-720.B.8)	1/Year ⁽²⁾⁽³⁾
9	Sewage sludge shall be injected below the surface of the land (9VAC25-31-720.B.9)	NA ⁽⁴⁾
10	Sewage sludge land applied shall be incorporated into the soil within 6 hours after application (9VAC25-31-720.B.10)	NA ⁽⁴⁾

1/Year = Sampling each calendar year with the results submitted by February 19th of each year

- (1) The monitoring frequency may be increased during this permit term if DEQ deems it necessary.
- (2) Between sampling events, operating records must demonstrate that the treatment facility is operating at a performance level known to meet VAR standards.
- (3) Process monitoring must be sufficient to demonstrate compliance with VAR treatment requirements.
- (4) If the selected VAR option 1- 8 is not met, the permittee shall provide notification to the land applier at the time the biosolids are delivered that the biosolids did not meet VAR at the treatment facility and that the biosolids must be injected or incorporated. The permittee shall obtain verification from the land applier that injection or incorporation occurred.

B. BIOSOLIDS MANAGEMENT AND REPORTING REQUIREMENTS

1. Biosolids from this facility shall be provided for the purpose of land application only if the facility is identified as an approved source on DEQ's *Sources of Biosolids, Industrial Sludges, WTP Residuals* list and if the biosolids are treated to meet the metals limits in Parts III.A.2, the pathogen reduction standards in Part III.A.3, and the VAR standards in Parts III.A.4.
2. Annual Report – The permittee shall submit an Annual Report not later than February 19th of each year to the DEQ-Valley Regional Office. Each report is for the previous calendar year's activity. If no biosolids were generated and provided to a land applier under this permit during the reporting year, a report shall be submitted stating that no biosolids were generated and provided to a land applier during the year. The annual report shall be certified and signed in accordance with Part II.K. The report shall include at minimum:
 - a. Part III.A.1. Annual Production Monitoring;
 - b. Biosolids Monitoring Data;
 - (1) Part III.A.2 Metals Limitations Monitoring;
 - (2) Part III.A.3 Pathogen Reduction Alternative;
 - (3) Part III.A.4 VAR Option;
 - (4) Supporting documentation, including laboratory chain of custody forms and certificates of analyses;
 - c. A summary of biosolids disposal contracts, if any, currently held with other generators, as well as any other biosolids or sludges currently being handled through subcontracts or other agreements. Include biosolids or sludges given to other generators, contractors or land filled, and biosolids or sludges accepted from other generators for treatment or land application; and
 - d. Identification of other methods used to dispose of or use biosolids or sludge produced during the previous calendar year, including the annual total amount of biosolids or sludge (in dry metric tons) disposed of or used by each method identified.
3. Recordkeeping – The permittee is required to retain the following information for at least five years:
 - a. The concentration of each pollutant in Part III.A.2.
 - b. A description of how the Class B pathogen reduction requirements in Part III.A.3 are met;
 - c. When one of the vector attraction reduction requirements 9VAC25-31-720.B is met, a description of how the VAR requirement is met;
 - d. A description of how the management practices specified in the approved Biosolids Management Plan and this permit are met;
 - e. The reports required in Part III.B.2;
 - f. The NANIs required in Part III.B.4; and
 - g. The following certification statement(s) as applicable:

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in 9VAC25-31-710.B and the VAR requirement in (insert one of the vector attraction reduction requirements in 9VAC25-31-720.B.1 through B.8, if one of those requirements is met) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

4. Notice and Necessary Information (NANI) – A NANI shall be provided to any person to whom biosolids are provided for the purpose of land application. The NANI shall be provided at the time the biosolids are provided if available, but no later than 45 days after the last day of the month in which biosolids were provided. The NANI shall represent the most recent monitoring period.

The NANI shall be on the form provided with this permit and include at minimum:

- a. A statement that Class B pathogen requirements in 9VAC25-31-710.B were met and the alternative used;
- b. A statement that one of the VAR requirements in 9VAC25-31-720.B.1 through B.8:
 - (1) was met and the alternative used; or
 - (2) was not met and incorporation or injection was required;
- c. The notice(s) provided to the land applier when biosolids provided did not meet VAR and required incorporation or injection;
- d. The concentration of total nitrogen and total phosphorus (as N and P on a dry weight basis) of the biosolids; and
- e. The following certification statement:
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

5. Biosolids Management Plan (BSMP)

- a. The permittee shall conduct all biosolids/sewage sludge use or disposal activities in accordance with the BSMP approved with the reissuance of this permit. The permittee shall maintain the BSMP which consists of the following components:
 - (1) The materials developed and submitted at the time of permit application or permit modification in accordance with 9VAC25-31-100.Q;
 - (2) The O&M Manual (Sections regarding solids handling and biosolids production and management, etc); and
 - (3) The Odor Control Plan.
 - b. Odor Control Plan (OCP) Requirement – The OCP shall include at a minimum:
 - (1) Methods used to minimize odor in producing biosolids;
 - (2) Methods used to identify malodorous biosolids before delivery to the land applier (at the generating facility);
 - (3) Methods used to identify and abate malodorous biosolids if delivered to the field, prior to land application; and
 - (4) Methods used to abate malodor from biosolids if land applied.
 - c. The BSMP and all of its components are an enforceable part of the permit.
 - d. Any proposed changes in the biosolids/sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ-VRO approval prior to the effective date of the changes. Upon approval, the revised BSMP becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in biosolids/sewage sludge use or disposal practices.
6. Reopener – The Board may promptly modify or revoke and reissue this permit if any applicable standard for biosolids/sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for biosolids/sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.